

Claims:

1. A method for removal of heavy metal ions from an aqueous solution by precipitation of ferrites containing said metals, wherein said method comprising a precipitation process that occurs in a magnetic field.
2. A method for removal of ions of metals as defined in claim 1, comprising: 5
 - a. providing a source of iron ions, said source containing at least Fe^{+2} ions
 - b. providing a source of OH^- ions
 - c. adding said Fe^{+2} ions to the aqueous solution
 - d. adding said OH^- ions to the said aqueous solution in the presence of a magnetic field.
 - e. precipitation of said ferrites from the aqueous solution.
3. A method for removal of ions as defined in claim 2, comprising adjusting the pH value of said aqueous solution to a value, which is sufficient to initiate formation of ferrites of said metals. 15
4. A method for removal of ions as defined in claim 2, in which said magnetic field is defined by a field strength of at least 300 Gauss.
5. A method for removal of ions as defined in claim 2, in which said source of iron ions comprises a mixture of $\text{Fe}(\text{SO}_4)$ and $\text{Fe}_2(\text{SO}_4)_3$.
6. A method for removal of ions as defined in claim 3, in which the pH value 20 is adjusted to 9.5.
7. A method for removal of ions as defined in claim 2, in which said source of OH^- ions comprises a base.
8. A method for removal of ions of contaminant metals as defined in claim 7, in which said base is NaOH. 25
9. A method for removal of ions as defined in claim 1, in which said aqueous solution is agitated.
10. A method for removal of ions as defined in claim 2, comprising addition of Fe^{+2} and Fe^{+3} ions to the aqueous solution.

11. A method for removal of ions as defined in claim 2, comprising adding seed crystals to the aqueous solution in order to promote formation of ferrites.

12. A method for removal of ions as defined in claim 11, in which said seed is magnetite.

13. A method for removal of ions as defined in claim 2, comprising 5
recirculation of at least a portion of the precipitated ferrites.

14. A method for removal of ions as defined in claim 2, in which the residual concentration of Cr in the aqueous solution is less than 0.04 ppm, the residual concentration of Zn^{+2} is less than 0.04 ppm and the residual concentration of Ni^{+2} is less than 0.01 ppm. 10

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